

<b>Preface .....</b>	<b>xi</b>
<b>Dedication .....</b>	<b>xv</b>
<b>1. Future Sustainability of the Sugar and Sugar–Ethanol Industries .....</b>	<b>1</b>
Gillian Eggleston	

## **Measurement of Sustainability in the Sugar and Sugar–Ethanol Industries**

<b>2. Measuring and Monitoring Sustainability in the Sugar and Sugar–Ethanol Industry .....</b>	<b>23</b>
Peter Rein	

### **Sustainability Efforts in Sugar Industries Around the World**

<b>3. Major Challenges and Changes in the European Sugar Sector .....</b>	<b>39</b>
Geoff Parkin and Jan Maarten De Bruijn	
<b>4. The Sugarcane Crop for the Sustainable Production of Sugar and Other Cane Derived Products in Mauritius .....</b>	<b>53</b>
Kassiap Deepchand	
<b>5. The Success and Sustainability of the Brazilian Sugarcane–Fuel Ethanol Industry .....</b>	<b>73</b>
H. V. Amorim, M. Gryscek, and M. L. Lopes	
<b>6. The South African and Southern African Regions – Part I: Sugarcane Production .....</b>	<b>83</b>
Barbara M. Muir, Ruth Rhodes, Predhie Naidoo, and Martin J Eweg	
<b>7. The South African and Southern African Regions – Part II: Sugarcane Processing .....</b>	<b>99</b>
Barbara M. Muir, Paul M. Schorn, Stephen Peacock, and Charles Kruger	

## **Sustainable Production of Fuel Ethanol from Sugar Crops and Products**

- 8. Pretreatment Technologies for the Conversion of Lignocellulosic Materials to Bioethanol ..... 117**  
Giovanna M. Aita and Misook Kim
- 9. Sustainable Production of Energycane for Bio-Energy in the Southeastern United States ..... 147**  
Ryan Viator, Paul White, and Edward Richard, Jr.
- 10. Sugar Beet (*Beta vulgaris* L) as a Biofuel Feedstock in the United States ..... 163**  
Lee Panella and Stephen R. Kaffka
- 11. Opportunities and Challenges of Sweet Sorghum as a Feedstock for Biofuel ..... 177**  
Sarah E. Lingle

## **Sustainable Improvements in the Quality Supply of Sugar Feedstocks**

- 12. Approaches to Raw Sugar Quality Improvement as a Route to Sustaining a Reliable Supply of Purified Industrial Sugar Feedstocks ..... 191**  
John R. Vercellotti, Sharon V. Vercellotti, Gavin Kahn, and Gillian Eggleston
- 13. Enzymatic Analysis of Mannitol as a *Leuconostoc mesenteroides* Deterioration Marker in Sugarcane and Sugar Beet Factories ..... 207**  
Gillian Eggleston, Jessica Gober, and Clay Alexander
- 14. Sustainability of Low Starch Concentrations in Sugarcane through Short-Term Optimized Amylase and Long-Term Breeding Strategies ..... 229**  
Marvellous Zhou, Collins Kimbeng, Serge Edme, Anna Hale, Ryan Viator, and Gillian Eggleston

## **Value-Added Products for a Sustainable Sugar Industry**

- 15. Value-Added Products for a Sustainable Sugar Industry ..... 253**  
Mary An Godshall
- 16. Liquid Sugars Produced in Sugar Refineries: Advantages of Large Central Units Serving the Sustainable and Competitive Needs of the Food Industry ..... 269**  
François Rousset
- 17. The Role of Sugar Beet Pulp Polysaccharides in the Sustainability of the Sugar Beet Industry ..... 283**  
Arland Hotchkiss, Marshall Fishman, and LinShu Liu

<b>Author Index</b> .....	<b>293</b>
<b>Subject Index</b> .....	<b>295</b>