

Contents

Contributors	ix
Foreword	xi
Preface	xiii
Acknowledgments	xv
Introduction Rodney A. Hill	1
Chapter 1 Input Factors Affecting Profitability: a Changing Paradigm and a Challenging Time Jason K. Ahola and Rodney A. Hill	7
Chapter 2 Measuring Individual Feed Intake and Utilization in Growing Cattle D.H. (Denny) Crews, Jr. and Gordon E. Carstens	21
Chapter 3 Producer Awareness and Perceptions about Feed Efficiency in Beef Cattle J.D. Wulfhorst, Stephanie Kane, Jason K. Ahola, John B. Hall, and Rodney A. Hill	29
Chapter 4 Feed Efficiency in Different Management Systems: Cow-Calf and in the Feedyard Keela M. Retallick and Dan B. Faulkner	47
Chapter 5 Lessons from the Australian Experience Robert M. Herd and Paul F. Arthur	61
Chapter 6 Nutrition and Feed Efficiency of Beef Cattle Monty S. Kerley	75
Chapter 7 Genetic Improvement of Feed Efficiency Paul F. Arthur and Robert M. Herd	93
Chapter 8 Feed Efficiency and Animal Robustness Wendy M. Rauw	105
Chapter 9 Interactions with Other Traits: Reproduction and Fertility John A. Basarab, Carolyn Fitzsimmons, C. Scott Whisnant, and Robert P. Wettemann	123

CONTENTS

Chapter 10	Feed Efficiency Interactions with Other Traits: Growth and Product Quality	145
	Rodney A. Hill and Jason K. Ahola	
Chapter 11	Estimating Feed Efficiency of Lactating Dairy Cattle Using Residual Feed Intake	159
	Erin E. Connor, Jana L. Hutchison, and H. Duane Norman	
Chapter 12	Muscle and Adipose Tissue: Potential Roles in Driving Variation in Feed Efficiency	175
	Cassie M. Welch, Marcus McGee, Theresa A. Kokta, and Rodney A. Hill	
Chapter 13	Epigenetics and Effects on the Neonate That May Impact Feed Efficiency	199
	Allison M. Meyer, Joel S. Caton, Bret W. Hess, Stephen P. Ford, and Lawrence P. Reynolds	
Chapter 14	Hormonal Regulation of Feed Efficiency	225
	Michael E. Davis, Macdonald P. Wick, and Martin G. Maquivar	
Chapter 15	Variation in Metabolism: Biological Efficiency of Energy Production and Utilization That Affects Feed Efficiency	251
	Walter G. Bottje and Gordon E. Carstens	
Chapter 16	Modeling Feed Efficiency	275
	Roberto Sainz	
Index		287