

1. Introduction: The Ruminant and the Rumen	1
2. The Rumen Bacteria	21
3. The Rumen Protozoa	77
4. The Rumen Anaerobic Fungi	129
5. Development of, and Natural Fluctuations in, Rumen Microbial Populations	151
6. Energy Yielding and Consuming Reactions	185
7. Metabolism of Nitrogen-Containing Compounds	217
8. Polysaccharide Degradation by Rumen Microorganisms	251
9. Lipid Metabolism in the Rumen	285
10. The Genetics of Rumen Bacteria	323
11. Microbe- Microbe Interactions	343
12. Compartmentation in the Rumen	361
13. Manipulation of Rumen Fermentation	387
14. Digestive Disorders and Nutritional Toxicity	445
15. Models, Mathematical and Biological, of the Rumen Function	461
16. The Future	513
Index	519