
PREFACE

Both the newer literature on biotechnology and the older literature on industrial microbiology are filled with descriptions of important commercial processes. Thus one can easily obtain media recipes and descriptions of conditions for fermentations conducted in vessels ranging from 50 ml Erlenmeyer flasks to 100,000 gallon agitated fermentors. However, what do you do when you want to know something about the organism itself—for example, its nutrition, physiology, ecology, taxonomy, or genetics? Such information, if it exists at all, is scattered throughout the literature, often in obscure journals. How can one rationally develop a commercial process without having some appreciation for the biology of the organism involved in the process? This volume is an attempt to solve this problem by assembling, for the first time, information on the biology of industrial microorganisms. We have attempted to cover a large assemblage of industrially important genera of unicellular bacteria, actinomycetes, yeasts, and molds.

We are indebted to our authors, each of whom is an expert on a particular group of organisms. Though they are extremely busy individuals, they agreed to the task because they realized its importance and necessity.

Unavoidably, the chapters are somewhat uneven in treatment. Our authors could review only what was already published about each group, and the basic literature is very spotty; in some genera, genetics is heavily stressed but nutrition is not, whereas the opposite is true in other genera. Indeed, the detection of such unevenness might have the beneficial effect of stimulating researchers to "fill in the gaps" by working in areas ignored in the past.

Some of our readers may be surprised when they see that we include *Escherichia coli* as an industrial microorganism and, indeed, devote the first chapter to this organism. We did this in recognition of the impact that recombinant DNA technology has had on our field in the last decade. Without the information provided by years of basic research on this bacterium, the current revolution in applied biology would not have taken place. Our main wish is that this book will be useful for all investigators, both young and old, who suddenly find themselves working on a new biotechnological project involving a microorganism they have never encountered before.

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