

Preface

This book provides useful information about emissions from livestock buildings and manure management. The theoretical considerations are described in this book as follows: Nitrogen cycle, nitrogen oxides, ammonia, hydrogen sulfide, methane, carbon dioxide, carbon monoxide, odors, dust, and aerosols. Furthermore, this book provides solutions on how to abate the emissions of gaseous pollutants from livestock buildings and manure management using effective emissions abatement techniques as follows: additives, covering manure storages, aerobic and anaerobic treatment, and dietary manipulation. On the other hand, dust emissions abatement techniques are discussed as follows: Spraying oil and water, oxidizing agents, ionization systems, aerodynamic dedusters, bioscrubbers, windbreak trees, and walls. Additionally, biofiltration for odor control is elucidated as follows: biofilter design and media of biofilter. The recent advancements in this field as well as the perspectives are discussed in this book.

Each chapter of the book provides precious and up-to-date knowledge from basics to apex, allowing readers to understand more deeply. This book will be very helpful for academics, scientists, scholars, researchers, undergraduate and graduate students worldwide who are specialized in engineering, environmental engineering, civil engineering, biosystems engineering, agricultural and biological engineering. Additionally, it will be very helpful for nongovernmental organizations (NGOs), universities, and research institutes and centers.

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Livestock Buildings

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