

Smart Livestock Management for Sustainable Farming

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Preface

Agriculture remains the backbone of many economies, and livestock farming plays a vital role in ensuring food security, rural employment, and economic stability. However, traditional livestock management practices often face challenges such as disease outbreaks, inefficient resource utilization, rising operational costs, and environmental concerns. In the era of digital transformation, integrating smart technologies into livestock farming has become essential for achieving sustainability and productivity.

Smart Livestock Management for Sustainable Farming explores the application of modern technologies such as the Internet of Things (IoT), artificial intelligence, data analytics, sensors, and automation in livestock management systems. These innovations enable farmers to monitor animal health, feeding patterns, breeding cycles, and environmental conditions in real time, leading to improved efficiency and better decision-making.

This work highlights the importance of sustainable farming practices that balance productivity with environmental responsibility. Smart livestock systems not only enhance animal welfare and reduce labor dependency but also minimize waste, conserve resources, and support eco-friendly agricultural development.

The purpose of this study is to provide insights into how intelligent farming solutions can transform conventional livestock practices into more efficient, profitable, and sustainable systems. It is hoped that this work will serve as a valuable resource for students, researchers, farmers, and policymakers who are interested in the future of sustainable agriculture and smart farming technologies.

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