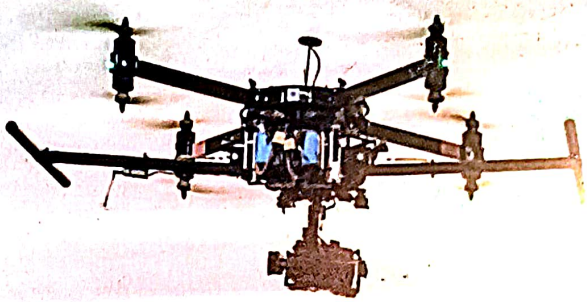
Sustainable Agriculture Systems and Technologies



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CHAPTER 2

Advances in Breeding and Reproduction: Enhancing Genetic Progress and Fertility in Livestock

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Abstract

Breeding and reproduction are fundamental aspects of animal agriculture and wildlife conservation, influencing genetic diversity, productivity, and sustainability. This abstract provides an overview of key concepts in breeding and reproduction, including genetic selection, reproductive technologies, and their impact on population dynamics. It also explores the challenges and emerging trends in these fields, emphasizing the critical role they play in shaping the future of animal husbandry and conservation efforts.

Keywords: Breeding strategies, genetic selection, artificial insemination, embryo transfer, selective breeding

Introduction

Breeding and reproduction play a crucial role in the dairy cattle industry in India, which is one of the largest milk-producing countries in the world. Farmers and breeders focus on improving the genetic potential of their cattle to enhance milk yield, disease resistance, and overall productivity. Artificial insemination (AI) is widely