THE ROLE OF ECOLOGICAL FACTORS IN FREE-RANGE ANIMAL FARMING: IMPLICATIONS FOR FEASIBILITY AND ANIMAL WELFARE

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ABSTRACT

Ecological conditions play a crucial role in the success and sustainability of free-range animal farming. Factors such as climate, vegetation, water availability, and terrain directly influence not only the feasibility of managing animals in open or semi-open systems but also the quality of their welfare. In restrictive environments like cages or small enclosures, animal welfare is often compromised due to lack of space, limited stimulation, and inability to express natural behaviors. Although such systems allow for easier management and safety, they rarely meet the animals' biological needs. In contrast, free-range and semi-free systems offer animals access to more natural habitats, promoting physical health, mental stimulation, and natural behaviors such as grazing, roaming, and social interaction. However, these systems require careful ecological planning, as poor environmental conditions can lead to health issues, resource scarcity, and increased human–animal conflict. Ensuring animal welfare in free-range farming depends on aligning management practices with environmental conditions and species-specific needs. Proper oversight, sufficient resources, and ecological compatibility are essential to create systems that are both ethically responsible and practically viable. Ultimately, ecological factors are foundational to designing humane, functional, and sustainable free-range animal farming systems.

Keywords: ecological conditions, free-range animal farming, animal welfare, feasibility, natural behaviors.