

THE IMPACT OF NITROGEN ON BIRDS AND ITS IMPLICATIONS FOR THE ENVIRONMENT: A REVIEW

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Abstract

This study explores nitrogen and its role in the avian organism, considering the conditions of poultry farming in Romania. Following an evaluation of the specialized literature, in order to meet the nutritional requirements of birds, their feed must be composed of high-quality nutrients that play a metabolic role in the process of growth and maintenance of homeostasis in the body.

A clean poultry farming process involves protecting the environment by recycling litter in agriculture. At the same time, a healthy farming process requires the implementation of biotechnologies at farm level, and the socio-economic dimension must respond to the current demands of chicken meat consumers. The study covers the pathophysiological concepts related to nitrogen catabolism and its influence on the homeostasis of avian organisms, as well as some of the most important pathologies associated with ammonia produced in industrial poultry farming. The discussions also provide guidelines for effective and healthy management, including for the environment. In conclusion, strategically closing the nitrogen cycle through modern poultry farm management based on proper nutrition, innovative biotechnologies, and controlled reuse of litter is a sustainable solution for improving bird welfare and health, protecting the environment, and increasing food safety. Active involvement of the Romanian scientific community in the development and application of these practices is necessary.

Key words: poultry management, nitrogen, ammonia, agriculture