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Development of Poultry Shed Ventilation System: A Prototype Approach

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Abstract: *The current study is on poultry shed prototype ventilation system model. 60% of India's population eats meat and this is growing. The poultry business grows 8-10% a year. Ambient conditions, notably high temperature and relative humidity in poultry sheds, cause heat stress in chickens, reducing production and increased mortality. India is mostly tropical, therefore summer midday temperatures approach 45°C in several regions. The capital and operating costs of traditional evaporative air-cooling systems are considerable compared to Indian poultry management investment norms. Poultry barns are usually in rural locations where power outages are common. Generator-powered cooling & ventilation costs 3 to 5 times more. The majority of poultry businesses don't employ suitable cooling systems, which affects production costs and earnings. The current study develops a low-cost cooling effect by operating a solar-powered Low-Cost Cooling System for Poultry Shed. It uses temperature & humidity control methods, battery storage systems, solar PV systems, structure, and exhaust air management to reduce heat stress in poultry birds. This technique minimizes mortality, enhances productivity, and boosts agricultural profits.*

Keywords: Heat Stress, Poultry, Heating, Ventilation, Solar PV System, Automatic Temperature Control

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