



Poultry Housing and Management

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When it comes to raising poultry, whether it be turkey, quail, broiler chickens, breeders, or layers, there are certain needs that have to be provided for optimal bird performance, health, and welfare. These needs include temperature control, air quality through proper ventilation, feed, water access, lighting, and protection from disease. Managing the house correctly is crucial in meeting these needs.

Biosecurity

Good biosecurity is vital in controlling traffic that comes on and off the farms to prevent the spread of virus or bacteria that can harm the birds. Minimizing visitors and having specific areas for parking and donning personal protective equipment (PPE) are some of the measures taken to protect the birds.

Feeding

Providing feed to birds is one of the most important aspects of poultry management in raising them to market age and weight. Different types of feeders are available, and the feeding system is designed to provide unlimited access to the birds. During brooding, extra feeders are put out in between the automatic feeders to increase the feeder space and make it easier for the birds to find food and get started on feed.

Watering

Providing water to birds is just as crucial as providing feed, and they can go longer without feed than without water. Raising the drinker systems as the birds grow is necessary to ensure that these birds are slightly reaching up to get the water.

Bedding material

Bedding material serves several functions, including absorbing moisture, diluting manure, providing insulation and cushioning, and reducing ammonia levels. Pine shavings, sawdust, straw, peanut hulls, and rice hulls are common materials used for bedding. Maintaining good litter quality is crucial in preventing foot pad dermatitis and promoting optimal bird welfare and health.

Managing air quality for poultry

Environmental control is crucial for maintaining good bird welfare, performance, and health. Air quality is a basic need of poultry, and it includes parameters such as carbon dioxide, carbon monoxide, ammonia, and relative humidity. To maintain optimal air quality, we need to keep carbon dioxide levels at 5000 ppm or less, carbon monoxide levels at 50 ppm or less, and ammonia levels at 25 ppm or less. Relative humidity should be maintained between 40 and 60. By controlling relative humidity, we can ensure that other air quality attributes also follow suit.

Ammonia is produced from the floor, so controlling litter quality is essential to keep ammonia levels low. When evaluating the poultry house environment, it's important to observe the birds' behavior and vocalizations. Spread-out evenly birds, eating and drinking regularly, and not panting indicate a comfortable environment. Changes in management, such as ventilation rate adjustments, can cause the birds to change their activity, providing insight into how well the house is managed.

Modern poultry houses and environmental control systems

Modern poultry houses are built with a sophisticated environmental control system to keep the birds comfortable and healthy, regardless of the weather outside. The system includes heaters, exhaust fans, sidewall inlets, and circulation fans. The heating system can be forced air furnaces or radiant heaters. The latter heats both the floor and the birds directly, creating a floor temperature gradient and drying the litter. The most common form of gradient heater is the tube heater. Larger houses tend to have a more stable environment, lower energy costs, and lower initial costs.

Air quality is essential for bird welfare, so bringing in fresh air is necessary. During cold weather, a cold weather environmental control system is used to heat the house and bring in fresh air. The heating system includes forced air furnaces or radiant heaters. The latter heats both the floor and the birds directly, creating a floor temperature gradient. Bringing in fresh air helps control air quality and house temperature.